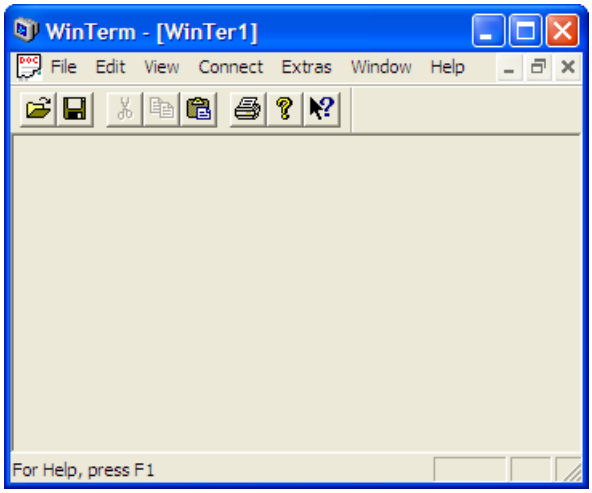

WinTerm

Universal Terminal Software

Operating Manual
29890BA2

Rev. No.: 04, 11/2013

Not for use in in-vitro diagnostic (IVD) procedures.

The information in this guide is subject to change without notice.

DISCLAIMER
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This instrument is not designed or intended for use with installations or equipment in hazardous environments. Servicing of the instrument must only be performed by Berthold Technologies Field Service Engineers or service staff authorized by Berthold Technologies.

Please contact our Service Center at service@berthold.com if you have any operational issues.

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Contents

1. Prefatory Comments

1.1 Typographical conventions

<**Add formula**>, <**OK**>, <**Close**>	**Buttons** are printed inside angular brackets in bold typeface
Menu **File**, **Open** dialog box	**Menu titles** and **dialog boxes** are printed in bold type
File | Open, **Options | Read**	**Menu items** are also printed in bold type; menu and submenu item are separated by a vertical line.
[Baudrate]	**Parameter queries** on a tab are also printed in bold type inside square brackets
"LB 9507"	**Entries** by the user are printed in bold type inside quotation marks
<**NUL**>, <**LF**>	**Control characters** in the Control Codes list (Script Language tab) already have angular brackets; they are printed in bold type

2. Warranty and Technical Issues

2.1 Warranty statement

The software is sold in accordance with the general conditions of sale of Berthold Technologies GmbH & Co KG and its affiliates and representatives.
Berthold Technologies warrants this product to be free of defects in material and workmanship for a period of 12 months from the date of delivery, ex works Bad Wildbad.
Berthold Technologies or its authorized representative will repair or replace, at its option and free of charge, any product that under proper and normal use proves to be defective during the warranty period.

Berthold Technologies shall in no event be liable or responsible for any incidental or consequential damage, either direct or indirect.

The above warranty shall not apply if:

a) the product has not been operated in accordance with the operating manual
b) the product has not been regularly and correctly maintained
c) the product has not been repaired or modified by a Berthod Technologies authorized representative or user
d) the product and parts thereof have been altered without written authorization from Berthold Technologies GmbH & Co KG
e) the product has not been returned properly packed in the original Berthold Technologies packaging

This warranty does not apply to any third party product involved in the application.

Berthold Technologies reserves the right to refuse to accept the return of any product that has been used with radioactive or (micro)biological substances, or any other material that may be deemed hazardous to employees of Berthold Technologies. Such products have to be properly decontaminated and marked. Before returning products to Berthold Technologies ensure the devices are properly decontaminated and the form "**Confirmation on decontamination**" is properly filled in and will be accompanying the product. (See appendix for a blank form)

Before returning products to Berthold Technologies, a returns/repair number must be obtained and clearly identified on the packing and documents. Call Berthold Technologies to get this number. Retain the original packaging for use if the instrument needs to be returned to Berthold Technologies.

2.2 Customer service

Customer service will be provided in the first instance by the network of Berthold Technologies representatives. In the event of any problem experienced with your instrument, the first recourse should be **your local Berthold Technologies representative**. For further problems requiring hardware or software expertise, the Technical Support group at Berthold Technologies GmbH & Co KG will be available by phone, fax or email to deal with your queries. Here is their address, phone, fax and e-mail:

Berthold Technologies GmbH & Co KG
Technical Support
Calmbacher Str. 22
75323 Bad Wildbad
Germany
Phone: +49 7081 177 114
Fax: +49 7081 177 301
Email: service@berthold.com

At the end of this manual you will find a Customer Reply Form (Appendix section). If a problem arises with the instrument which you are not able to resolve, please fill in this form. This form should then be transmitted to your Berthold Technologies representative or to Technical Support at Berthold Technologies, where it will receive early attention.

Please also make sure that you have the relevant information available before contacting Berthold Technologies. Helpful information would include:

- serial numbers, part number, revision:
  see production label on instrument
- software and firmware versions
- monitor and log files (refer to the respective service manuals)

3. Introduction

WinTerm is a universal terminal program designed by Berthold Technologies for control and communication of a variety of Berthold Technologies instruments that feature data output via a serial interface or a programmed FTDI USB-to-serial device.

WinTerm is a 32 bit Windows application which can be operated under 32 bit Windows Operating Systems, e.g. Win 95, Win NT, Win 2000, Win Vista, Win 7 .

The major WinTerm functions are:

- Terminal emulation for ANSI, TTY, VT52, VT100.
- Instruments definition via dialog for setting the communication parameters .
- Control of stand-alone instruments via WinTerm by means of function keys that can be defined by the user as needed.
- Importing instrument data into WinTerm ; data strings can be modified easily as needed in order to process the data in external programs.
- For example, you can define separators or modify or skip any character to get the desired table format.
- OLE automation for direct import of the data into EXCEL 5.0 (and higher).
- Downloading of files, i.e. transfer of files to the stand-alone instrument (e.g. for program updates).

This Operating Manual is structured as follows:

The manual covers all manipulations in a work flow order starting from installation via regular operation to maintenance.

In each section you are guided through the respective procedures step by step. The steps are consecutively numbered in each section. Explanations on the individual steps are added in small type font.

Explanations on the various types of operations are highlighted specifically.

For your convenience, illustrations are placed directly next to the respective text.

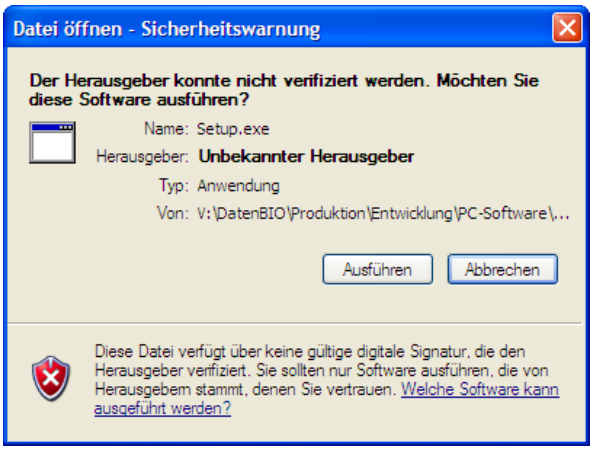
4. Installation

Read this part completely prior to starting with the first steps and make sure that all pre-requisites are met as described below.

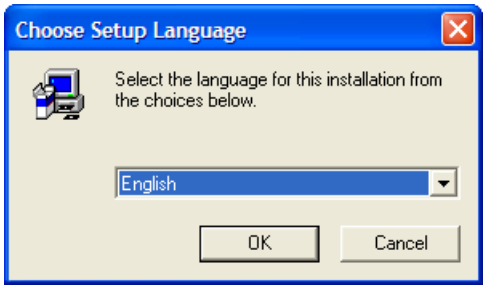
1. Insert software CD in CD drive of your computer

2. Browse to the CD root directory and double click **Setup.exe**

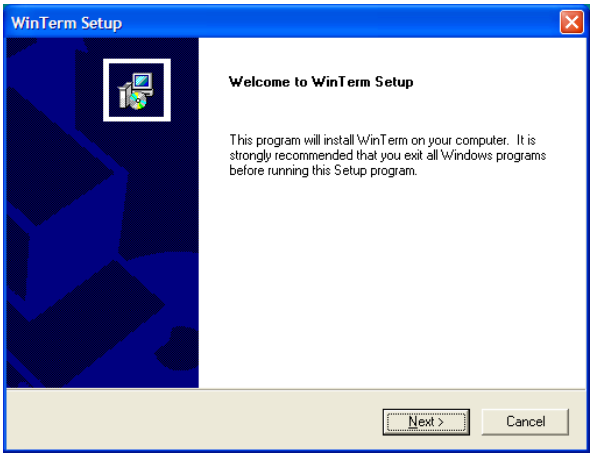
3. Click <**Run**> (<Ausführen>)



4. Select language



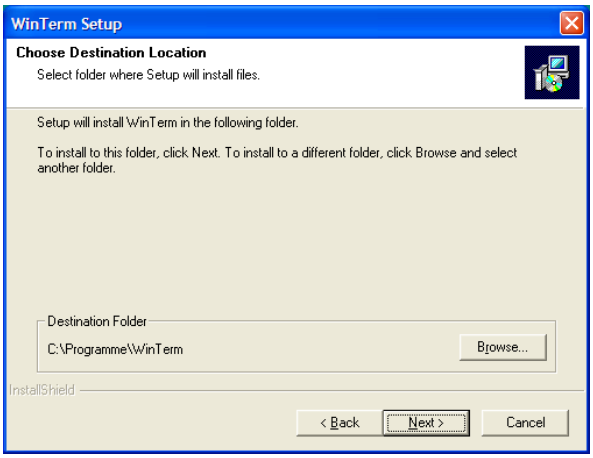
5. Click <**Next**>



6. Define installation directory

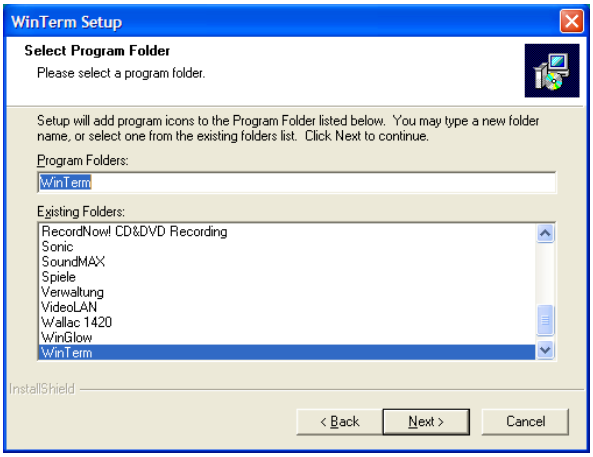
7. Click <**Next**>

8. Click **<Install>** in the next dialogue

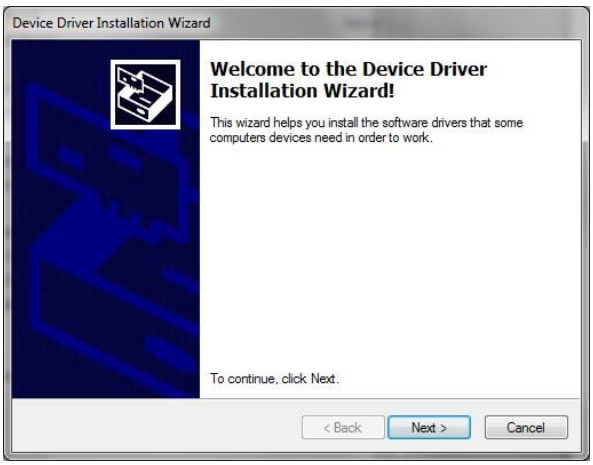


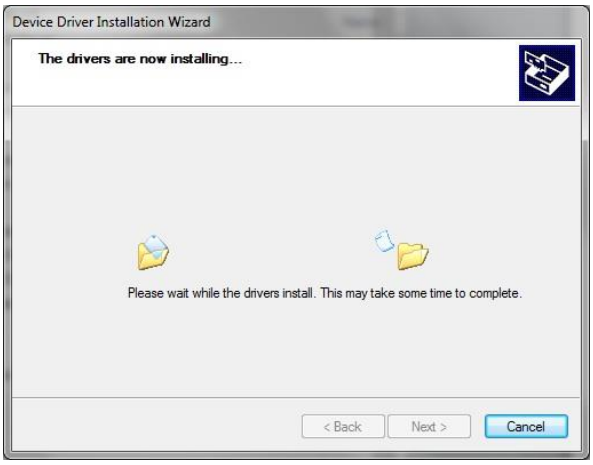
9. Define the name of the program folder (Windows XP only)

10. Click <**Next**>



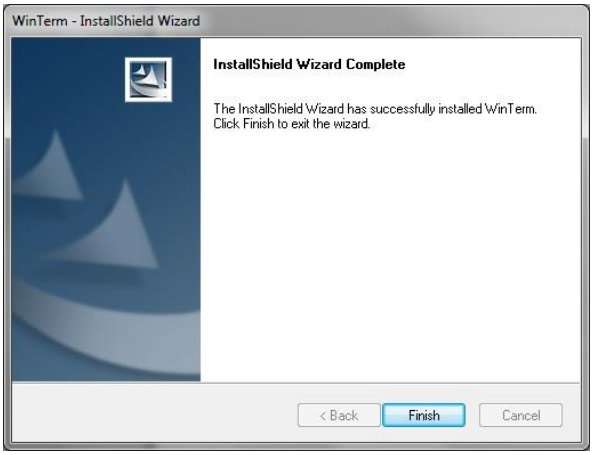
11. Click **<Next>** to start the Device Driver Installation Wizard necessary to communicate with instrument connected via a programmed FTDI serial-to-USB device





12. Click **<Finish>** to complete the USB device installation

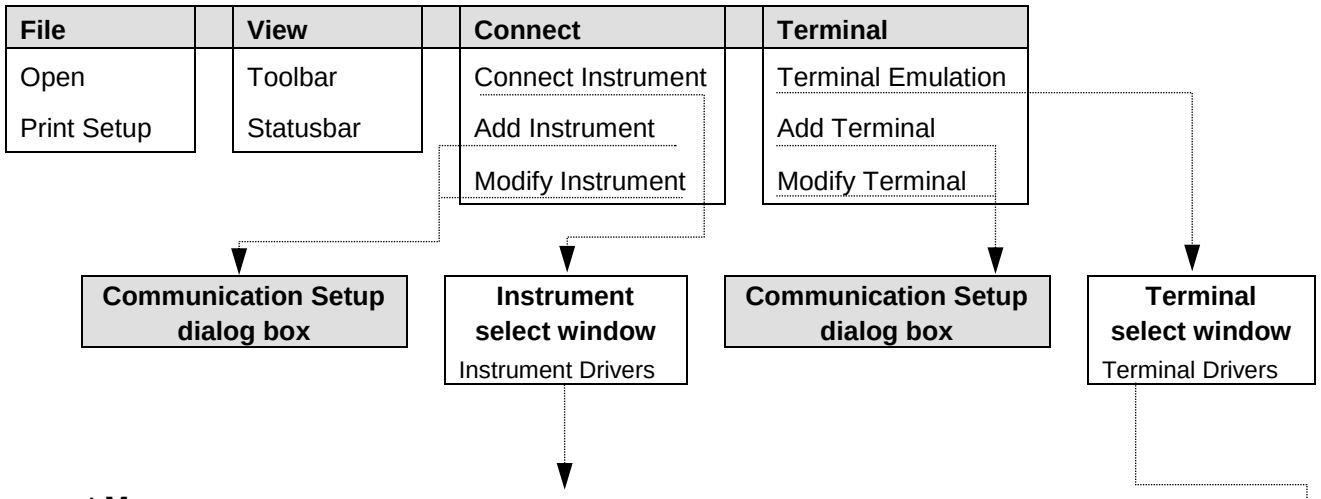
13. Click <**Finish**> to finish the installation



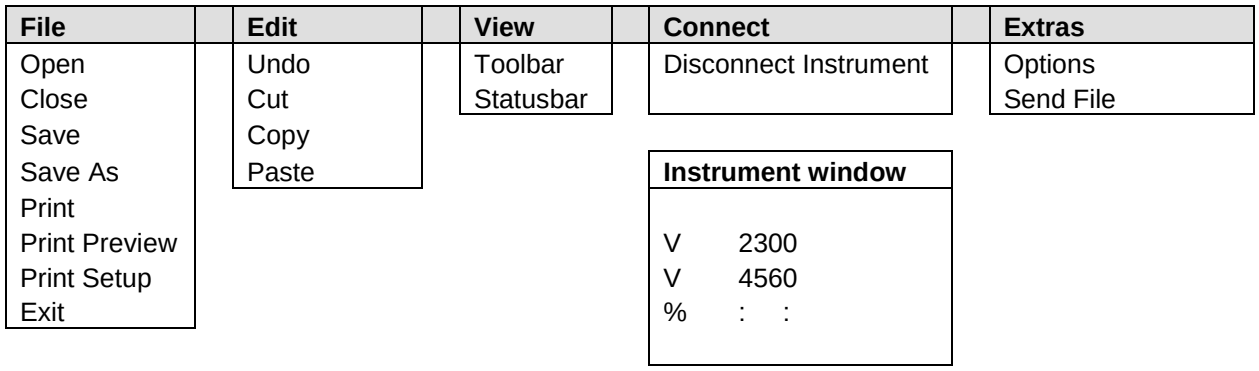
5. Menus and Functions

5.1 Overview

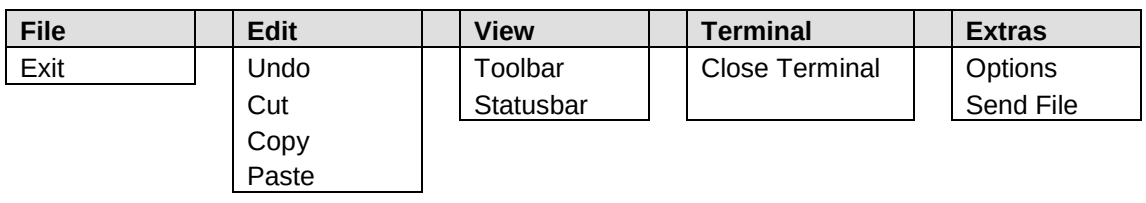
Main Menu



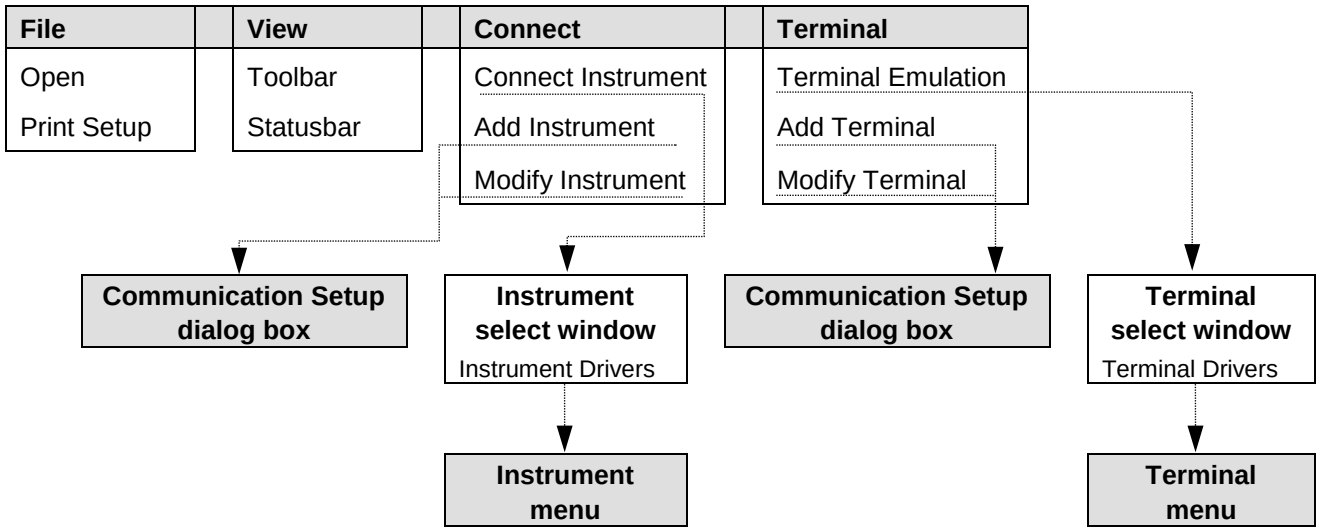
Instrument Menu



Terminal Menu



5.2 Main Menu



Functions in the Main menu

Defining/establishing communication with instruments
The **Connect** menu includes two different *instrument-specific* functions.

- Via **Add** and **Modify** you can define or edit the communication parameters specifically for an instrument in the [**Communication Setup**] dialog box and save them under the instrument name, e.g. transfer parameters, definition of function keys for instrument control, string processing.
- **Connect Instrument** takes you via the Instrument select window (and you can select a defined instrument) to the ***Instrument menu*** and you can communicate with the connected instrument.

Terminal emulation
On the **Terminal** menu you can define parameters for the desired terminal emulations specifically for an instrument (items **Add Terminal** /**Modify Terminal**) and save them.
Terminal Emulation on the **Terminal** menu takes you via the terminal select window to the ***Terminal menu*** where the data flow is displayed.

File menu

Open	Opens an Instrument or Terminal file after selection of the desired file in the **Open File** dialog box .
Print Setup	Defines the print parameters in the **Print Setup** dialog box (Windows standard function).

View menu

Toolbar Shows the toolbar at the top of the screen. The toolbar disappears when you click on this item once more.

Statusbar Shows a status bar at the bottom of the screen. Clicking on the item once more hides the status bar.

Connect menu

Connect Instrument Select an instrument parameter file in the Instrument select window. Then the connection to the respective instrument is established and the Instrument window displayed in the ***Instrument menu*** . If the instrument sends data, the data flow is displayed in the Instrument window, depending on the modifications defined in the instrument parameter file .

Add Instrument Creates a new instrument parameter file. The instrument parameters are entered and saved in the **Communication Setup** dialog box. This file can then be loaded via the items **Connect Instrument** or **Modify Instrument** .

Modify Instrument Modifies an existing instrument parameter file. Selecting this item and the desired file in the Instrument select window opens the **Communication Setup** dialog box and you can edit the parameters.

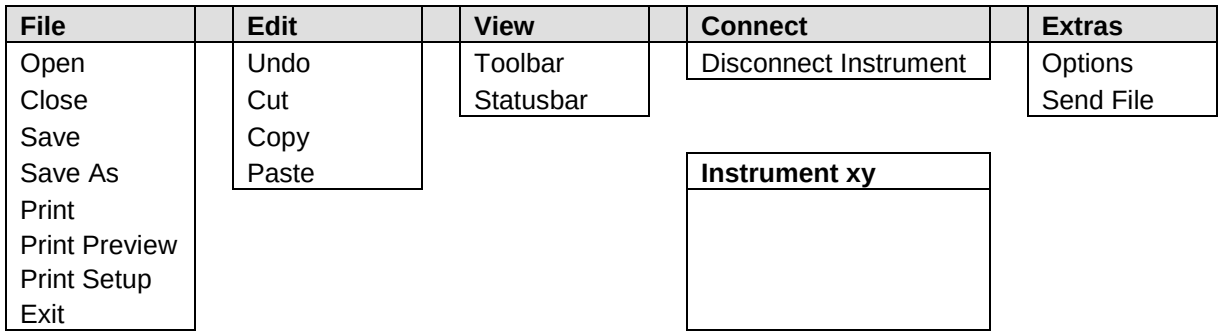
Terminal menu

Terminal Emulation Select the Terminal file in the Terminal select window. Then the program changes to the ***Terminal menu*** . The connection to the respective instrument is established and the data flow displayed in the Terminal window.

Add Terminal Creates a new Terminal file. The Terminal emulation parameters are entered and saved on the 3 tabs of the **Communication Setup** dialog box. This file can then be loaded via the items [**onnect Instrument** or **Modify Instrument**.

Modify Terminal Modifies an existing Terminal file. Selecting this item and the desired file in the Terminal select window opens the **Communication Setup** dialog box and you can edit the parameters.

5.3 Instrument Menu



Select **Connect Instrument** in the **Connect** menu and then choose an instrument in the instrument selection window to get to the Instrument menu.

Functions in the Instrument menu

The communication with the selected instrument is displayed in an instrument-specific window. Upon completion of the transfer, you can edit the data displayed in the Instrument window using the functions of the **Edit** menu and save and print them using the functions of the **File** menu .

Options in the **Extras** menu takes you to the *instrument-specific* **Communication Setup** dialog box; you can view and edit the parameters for display in the Instrument window (terminal parameters, communication parameters and function key definition).

Use the **Send File** item to download files to the connected instruments.

Disconnect in the **Connect** menu terminates the connection with the instrument and you can use the editing functions. You can reestablish a connection with the instrument via the **Connect** item on the **Connect** menu. When you close the Instrument window, the program returns to the ***main menu***.

File menu

Open	Opens an Instrument file after selection of the desired file in the **Open File** dialog box .
Close	Closes an Instrument file and thus the Instrument window.
Save	Saves an Instrument file under the existing filename.
Save As	Saves an Instrument file under a new name.
Print	Prints the contents of the open file.
Print Preview	Upon selection of this item the file contents is displayed as it will be printed, and you can edit it via buttons (Windows standard function).

Print Setup	Defines the print parameters in the [**Print Setup** dialog box (Windows standard function).
Exit	Exits the programs.

Edit menu

Editing functions for data processing in the Instrument window. The editing functions are available only upon completion of the data transmission and by selecting **Disconnect** in the **Connec**t menu.

Undo	Undoes the last entry or action.
Cut	The highlighted text is cut and copied to the Clipboard.
Copy	The highlighted text is copied to the Clipboard.
Paste	The Clipboard contents are pasted at the cursor position.

View menu

Toolbar	Shows the toolbar at the top of the screen. The toolbar disappears when you click on this item once more.
Statusbar	Shows a status bar at the bottom of the screen. Clicking on the item once more hides the status bar.

Connect menu

Disconnect Instrument	The connected instrument is disconnected and the editing functions for data processing in the Instrument window are available.

Extras menu

Options	Shows the parameters of the loaded Instrument file. The parameters can be edited as needed.
Send File	Any file in the program directory can be sent to the connected instrument.

Instrument window

The Instrument window is automatically displayed in the Instrument menu. Data sent by the connected instrument is automatically displayed.

The Instrument window is closed and you exit the Instrument menu (return to the main menu) if you click on the  button in the upper right corner of the screen.

5.4 Terminal Menu

File	Edit	View	Terminal	Extras
Exit	Undo Cut Copy Paste	Toolbar Statusbar	Close Terminal	Options Send File

In the Terminal menu, the data flow is displayed depending on the selected terminal emulation. Select **Options** in the **Extras** menu to view and edit the communication parameters and the function key definition (**Communication Setup** dialog box).

Select **Close Terminal** in the **Terminal** menu to terminate the terminal mode.

Send File allows you to send data to the connected instrument.

File menu

Exit	Exits the programs.

Edit menu Editing functions for data processing in the Terminal window. The editing functions are available only upon completion of the data transmission and by selecting **Close Terminal** on the **Terminal** menu.

Undo	Undoes the last entry or action.
Cut	The highlighted text is cut and copied to the Clipboard.
Copy	The highlighted text is copied to the Clipboard.
Paste	The Clipboard contents are pasted at the cursor position.

View menu

Toolbar	Shows the toolbar at the top of the screen. The toolbar disappears when you click on this item once more.
Statusbar	Shows a status bar at the bottom of the screen. Clicking on the item once more hides the status bar.

Terminal menu

Close Terminal	The connected instrument is disconnected and you exit the Terminal menu

Extras menu

Options Shows the parameters of the loaded Terminal file. The parameters can be edited as needed.

Send File Any file in the program directory can be sent to the connected instrument in Terminal mode.

Terminal window The Terminal window is automatically displayed in the Terminal menu. Data sent by the connected instrument is automatically displayed.

The Terminal window is closed and you exit the Terminal menu (return to the main menu) if you select **Close Terminal** in the **Terminal** menu.

6. Operation

6.1 Typical Operation

1. **Install program** via Setup program .

2. **Define instruments** in the **main** menu

Select **Add Instrument** in the **Connect** menu , and enter the instrument specific communication parameters in the **Communication Setup** dialog box for the desired instrument. See the operating manual of the respective instrument for more information (transfer parameters, structure of data strings output to the serial interface of the instrument, external control option).

Confirm entries with <**OK**>.

Repeat this procedure for each instrument.

3. **Establish instrument communication**

Connect instrument to serial interface.

Select **Connect Instrument** in the **Connect** menu and then select the instrument you want to use in the Instrument select window. The program changes to the Instrument menu and an empty window opens showing the instrument communication.

If external instrument control is possible and function keys have been defined in the **Communication Setup** dialog box, these function keys are shown at the bottom of the screen.

If you have activated OLE automation , EXCEL will be started automatically and a window will open with an empty spreadsheet. If you have a 17" screen or bigger, EXCEL and the Instrument window may be displayed next to each other.

4. **Start instrument communication**

a) ***External control***

Communication starts as soon as you press the **Start** function button. The further sequence of operations is dependent upon the individual instrument.

b) ***Instrument control***

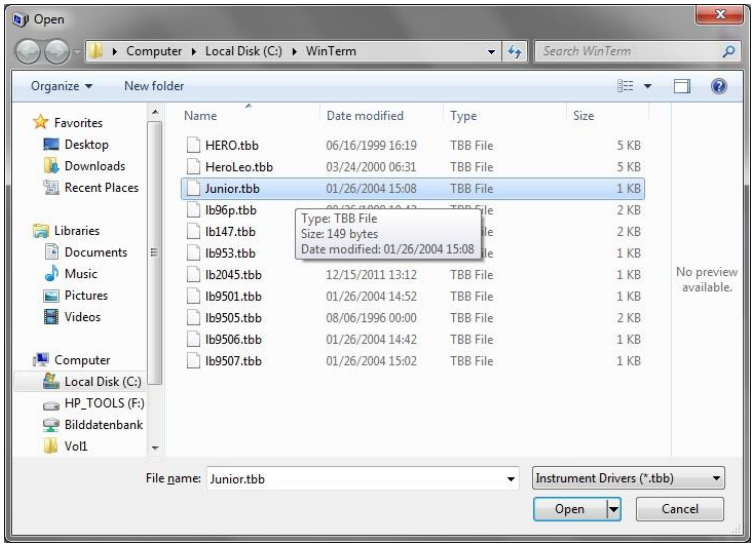
Communication is established as soon as the connected instrument sends data via the serial interface, i.e. when the instrument is operated accordingly and a measurement has been started. This data is imported into the Instrument window and - if selected - into the EXCEL spreadsheet.

5. Select **Terminal emulation** in the **main menu (optional)**

Select **Add Terminal** in the **Terminal** menu and define the desired terminal emulation(s). Then select **Connect Terminal** . As soon as you select the connected instrument, the data flow is displayed in the Terminal menu .

6.2 Instrument Definition

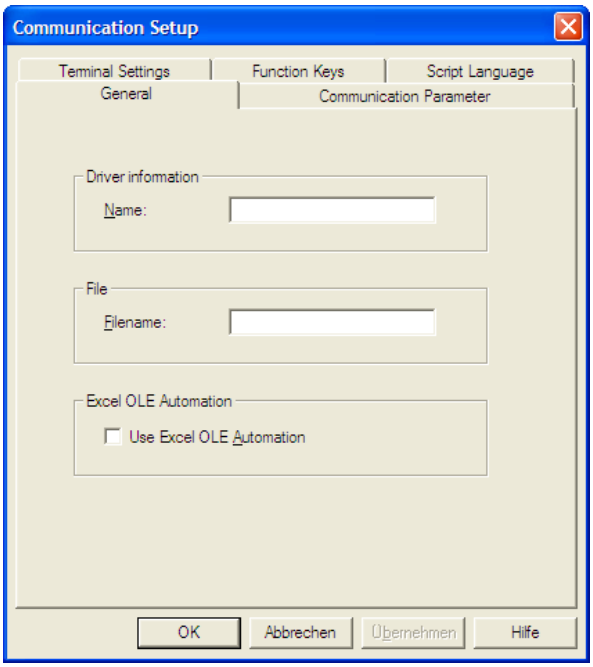
This section is relevant only if the instrument to communicate with is not available from the default set of instruments



You have to create an instrument-specific parameter set for each instrument you want to communicate with via **WinTerm.** Enter this parameter set in the **Communication Setup** dialog box; it is saved as driver information. These instrument-specific files can be loaded again any time and allow direct communication with the respective instrument.

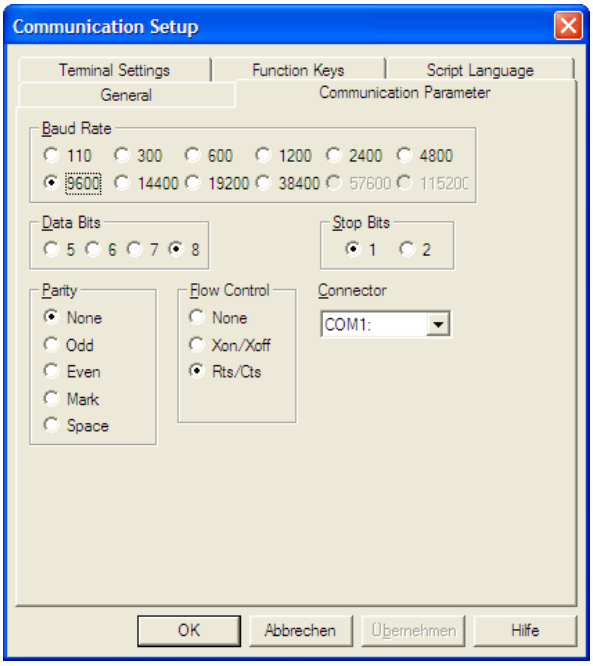
1. Select **Add Instrument** on the **Connect** menu of the ***main*** *menu*. The **Communication Setup** dialog box appears, comprising 5 tabs

2. Select the **General** tab.
   Driver information Name
3. Enter a name for the desired instrument. This name is also used as filename and - with the **WinTerm**-specific extension ***.tbb*** - displayed in the **Filename** text box
4. **Excel OLE Automation**
   Define here if you want to use OLE automation. If you select this option, EXCEL starts automatically when communication has been established with an instrument (**Connect Instrument**), and the incoming data is automatically imported into an EXCEL spreadsheet.
   To use this feature, EXCEL 5.0 or higher must be installed on your PC.



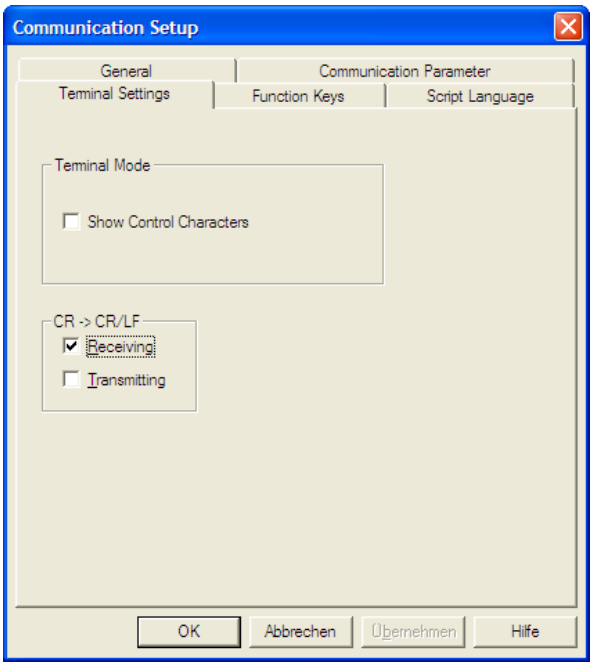
5. Select the **Communication Parameter** tab and enter the communication parameters for the respective instrument

   See the instrument operating manual for more information regarding the settings

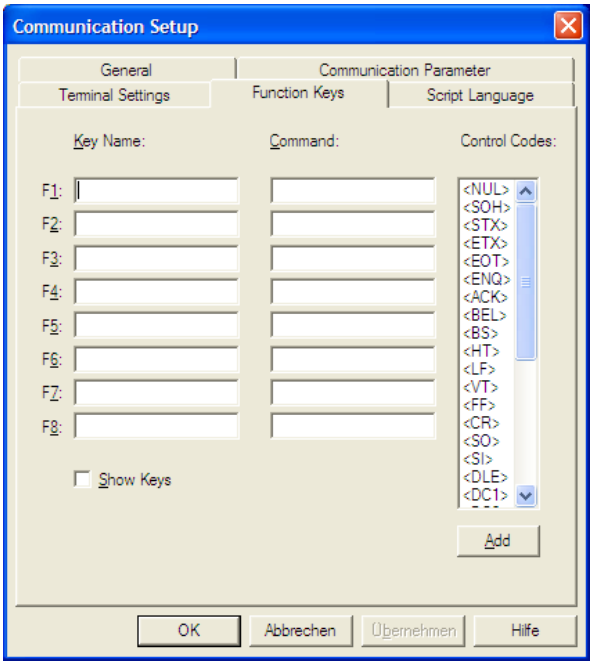


6. Select the **Terminal Settings** tab and enter the parameters for screen display:
   Terminal Mode
   Show Control Characters
   Shows the control characters which are normally invisible
   (ASCII codes 1 to 32).

   CR -> CR/LF
   Conversion of CR into CR/LF when
   Receiving or
   Transmitting or
   none, when none of these options has been selected



7. Select the **Function Keys** tab if the instrument can be controlled via external commands. You can create function keys and assign text, text with control character or complete files to these function keys. If you use one of these function keys in the ***Instrument menu***, the files are sent to the respective instrument via the serial interface
8. Enter a name in the **Key Name** column. This name appears later on the function key.
9. In the **Command** column, enter text, text with control characters and/or one or several filenames which are to be assigned to a function key and transmitted at the push of a button.
   The **^$F** code must appear before and after each filename
10. Place the cursor in the respective row of the **Command** column and enter text, the control character or the filename



You may assign one or several files to one function key if these files are in the program directory. As soon as you press the respective function key, the file contents is sent to the instrument. Beginning and end of the filename have to be identified by the character ^$F

Tool for entering control characters:
Place the cursor at the entry position and select the control character from the **Control Codes** list by double-clicking on. (You can also insert a control character by clicking on the desired character and then clicking on <**Add**>)

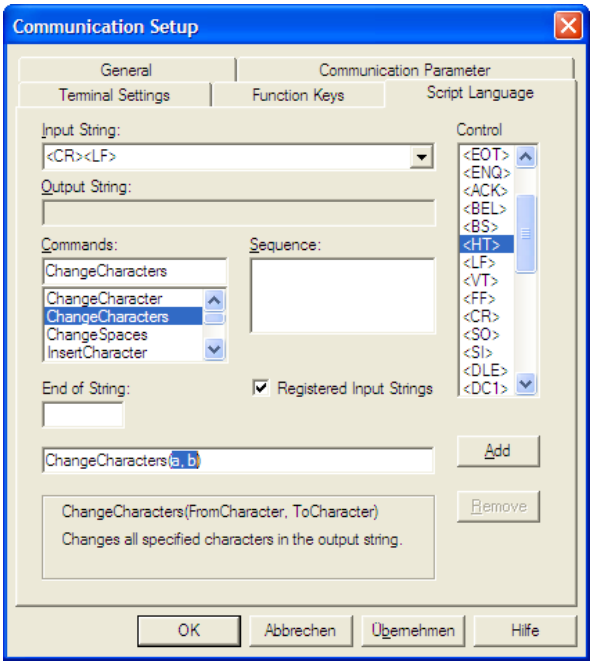
Up to 8 function keys (<**F1**> to <**F8**>) can be defined in this manner

Control Codes are invisible ASCII control characters

Show Keys

If you select this item, the invisible ASCII control characters are displayed for this instrument during communication

11. Select the **Script Language** tab



You can modify the data string expected by the instrument such that it can be processed by other programs (e.g. column-wise layout of the measured data, deletion of control character, adding tabs, etc.)

Input String

Row-wise input of control characters which are to be used by the respective instrument unmodified or modified. Characters which are not entered here will be disregarded. You can define modifications for each row via **Commands** and **Control** character (see below).

Output String

Shows the string the way it looks after editing.

Commands

List of commands which can be used to change or delete control characters:

Change Character Change Character (0, a, b)

0 = placeholder for the position to be changed (sequential position number)

a = placeholder for the character to be changed

b = placeholder for the character to which **a** is to be converted

Change Characters Change Characters (a, b)

a = placeholder for the character to be changed which is converted wherever it occurs in the data string

b = placeholder for the character to which **a** is to be converted

Change Spaces Change Spaces (abc)

(abc) = placeholder for any string. All consecutive blank characters are replaced by the entered string. This string (abc) may therefore contain any control character

Insert Character Insert Character (0,a)

0 = placeholder for the position to be changed (sequential position number)

a = placeholder for the character to be changed

Remove Characters Remove Characters

Skip Characters Skip Characters (0)

0 = number of characters to be skipped

Trim All Trim All ( )

Deletes all blank characters.

Trim Left **Trim Left ( )**

Deletes all blank characters at the start of the input string (leading blank characters).

Control

List of control characters (ASCII characters from 0 to 31) that can be inserted

Control character selection: Click on the character and then on <**Add**> (or double-click) to insert the highlighted character at the cursor position.

Sequence

Shows the conversion commands for the respective string row.

<**Add**>

Inserts the highlighted control characters at the cursor position

<**Remove**>

Deletes the row containing the cursor (in the **Input String** and **Sequence** fields).

End of String

Enter the last character of the entire string. If this field is empty, the last character of the selected input string is automatically used as the last character.

Registered Input String

Select this option if you want to display only the defined input strings

Name	Button	Description
<NUL>	^@	Null
<SOH>	^A	Start of header
<STX>	^B	Start of text
<ETX>	^C	End of text
<EOT>	^D	End of transmission
<ENQ>	^E	Inquiry
<ACK>	^F	Acknowledge
<BEL>	^G	Bell (alarm)
<BS>	^H	Back space
<HT>	^I	Horizontal tab
<LF>	^J	Line feed
<VT>	^K	Vertical tab
<FF>	^L	Form feed
<CR>	^M	Carriage return
<SO>	^N	Shift out
<SI>	^O	Shift in
<DEL>	^P	Delete
<DC1>	^Q	Device control 1
<DC4>	^T	Device control 4
<NAK>	^U	Negative acknowledgment
<SYN>	^V	Synchronous idle
<ETB>	^W	End of transmission block
<CAN>	^X	Canceled
<EM>	^Y	End of medium
<SUB>	^Z	Substitute
<ESC>	^[	Escape
<FS>	^\	File separator
<GS>	^]	Group separator
<RS>	^^	Record separator
<US>	^_	Unit separator

6.2.1 How to change the input string

Check the structure of the data transfer of the respective in-struments; you can find it in the respective operating manual or have it displayed in the Terminal mode of WinTerm.

Example: LB 9507

Data output via serial interface is described in the operating manual. The first rows:

Start measuring series:

?	<Prot.No>	(CR) (LF)	3-digits
	<Gen. Note>	(CR) (LF)	0-15 characters

Measured standards

	<RLU>	(CR) (LF)	for all
	:		NSB
	:		TOTAL
	:		Standard/CAL
			12 digits

etc.

Prepare those parts of the data string you want to transfer and the modifications you want to make, so that the data can automatically be imported in an EXCEL spreadsheet.

Keep in mind:

a) If you have selected **Registered Input String**, only those characters are processed by Win-Term and shown in the In-strument window or imported in the EXCEL spreadsheet which have been entered and/or edited in the **Input String** text boxes. The program disregards all characters and sequences which were not entered.

b) During data communication, the program searches the entire data flow for the sequences entered in the [Input String] field. All (independent of the position in the string) sequences found are processed and output accordingly. For example, if you enter (blank character)(CR)(LF), all rows having this form are displayed (and processed, if necessary), i.e. in case of the LB 9507 all measured standards, since these start with a blank character.

c) To make sure that even rows which do not have any code at the start of a row can be transmitted, we recommend using a blank character as code: In order to transmit the comment it has to start with a blank character. The respective row in Win-Term would look as follows:

(blank character)(CR)(LF)

The advantage of using a blank character as code is that the measured values always start with a blank space, since they comprise 12 digits and are right-aligned.

Enter the first sequence you want WinTerm to process into the **Input String** text box.

Example:

1st input string: ?<CR><LF>

You can make these entries via the keyboard, using the **Control** list to enter the control character. Click on a control char-acter and then on <**Add**> (or double-click on the control character). This will insert the selected character at the cursor position.

a) unchanged string:
To use this string without any modification, exit the **Input String** field. No entry is made in the **Sequence** list box. To create a second row, position the cursor again in the [Input String] field and change the input. A modification is regarded as a new row.

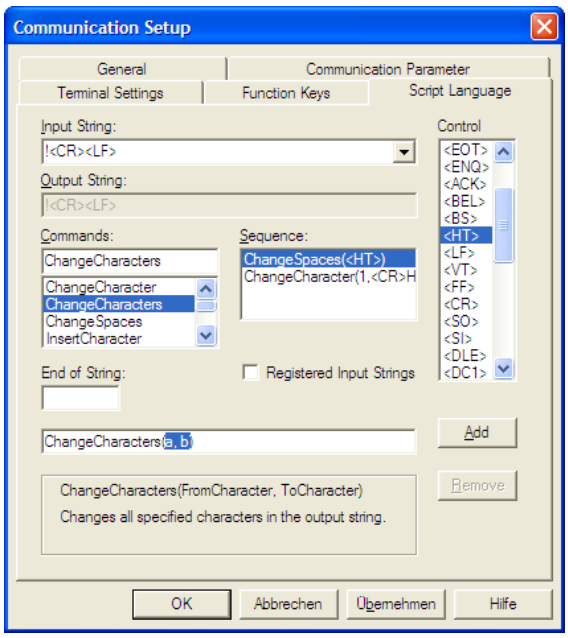
b) changing the string
Select a command from the **Commands** list by double-clicking on it. Then this command is displayed in the bottom text box with the respective code for changing the input string in brackets. Above that the code is explained. Overwrite the placeholder depending on the selected command. You may use the **Control** list. Then click on <**Apply**>. The changed string is entered in the row **Output String** and the conversion command in the **Sequence** list.

Example:

Change Character (0, a, b)
0 = placeholder for the position to be changed
a = placeholder for the character to be changed
b = placeholder for the character to which **a** is to be converted.

If you change this command code in
Change Character (1, <**CR**>, <**HT**>**)**

- ❒ Overwrite the **0** by a **1**.
- ❒ Delete **a**, leaving the cursor in this position.
- ❒ In the **Control** list, click <**CR**> and then <**Add**> (or double-click <**CR**>). The <**CR**> character is inserted at the cursor position.
- ❒ Proceed in the same manner with **b**, but instead of **b** insert <**HT**>.
- ❒ Click on <**Apply**>. The changed string is entered in the **Output String** field, and the command sequence **Change Character (1,** <**CR**>, <**HT**>**)** in the **Sequence** list.



Select the next command to change this string a second time. Then the command code is displayed and you can modify it as described above and enter it in the **Output String** row. Then the command sequence for conversion is also entered in the **Sequence** list. (All associated command sequences are displayed for each string.)

Input of second row:

Exit the **Input String** field and set the cursor again in this field. Thus, this row including its contents is regarded as the next row. Change the existing text and modify it as described above.

In the **End of String** field, enter the last character of the entire string. If the field remains empty, the last character of the selected input string is automatically used as the last character.
You can choose if only the rows defined in the **Input String** field are to be displayed or all:

☒ **Registered Input Strings**
Only the strings listed in the **Input String** field are displayed during data communication.

☐ **Registered Input Strings**
The complete data flow is displayed.

6.2.2 Saving the instrument parameters

When you have entered/converted all parameters and characters, confirm your entries with <**OK**>. This will save all parameters and data for the respective instrument under the instrument name (defined on the **General** tab).

6.3 Editing Instrument Parameters

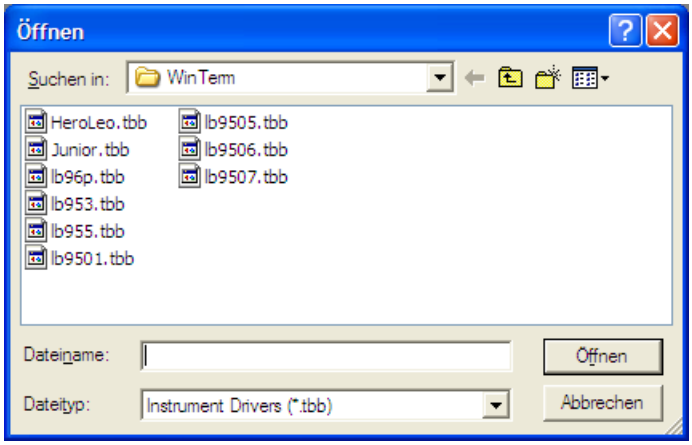
- ❒ To correct the instrument parameters, select **Modify Instrument** on the **Connect** menu . The Instrument select window appears.
- ❒ Select the desired file.
- ❒ The **Communication Setup** dialog box appears with the respective parameters.
- ❒ Edit these parameters as described in section before

6.4 Instrument Communication

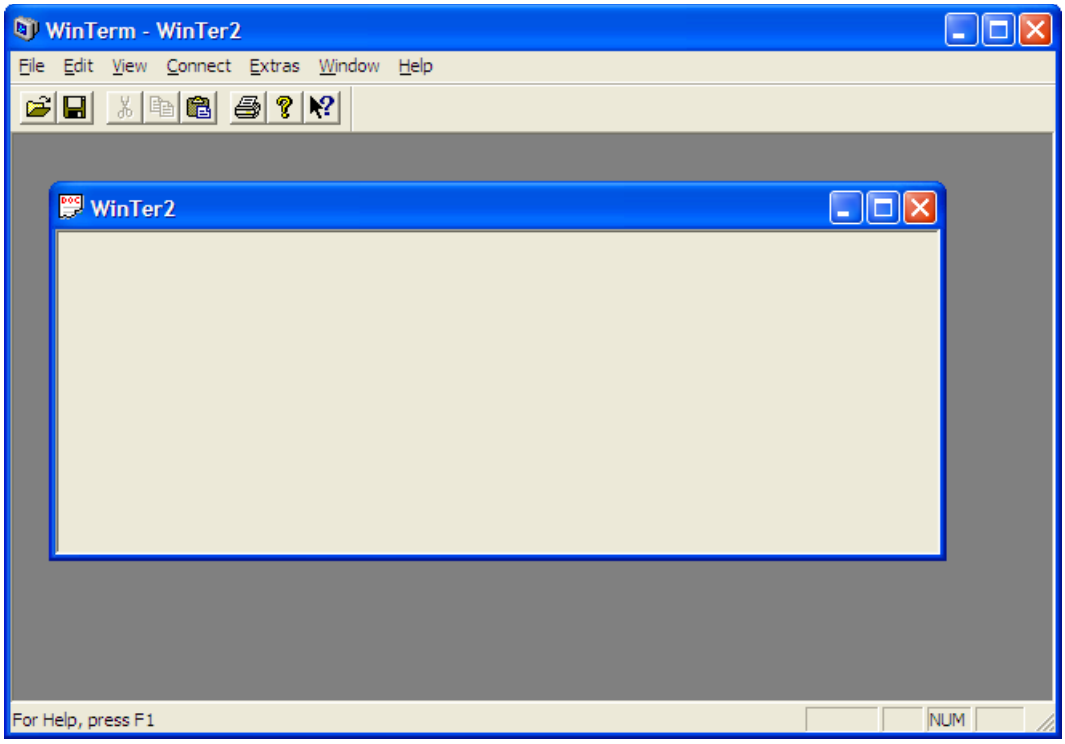
Connect the instrument to the serial interface of the computer and turn the instrument on.

*Load communication parameters for an instrument in **WinTerm**:*

On the **Connect** menu of the main menu, select **Connect Instrument** and in the **Open** dialog box the filename under which you have saved the communication parameters for the connected instrument (extension ***.tbb***).



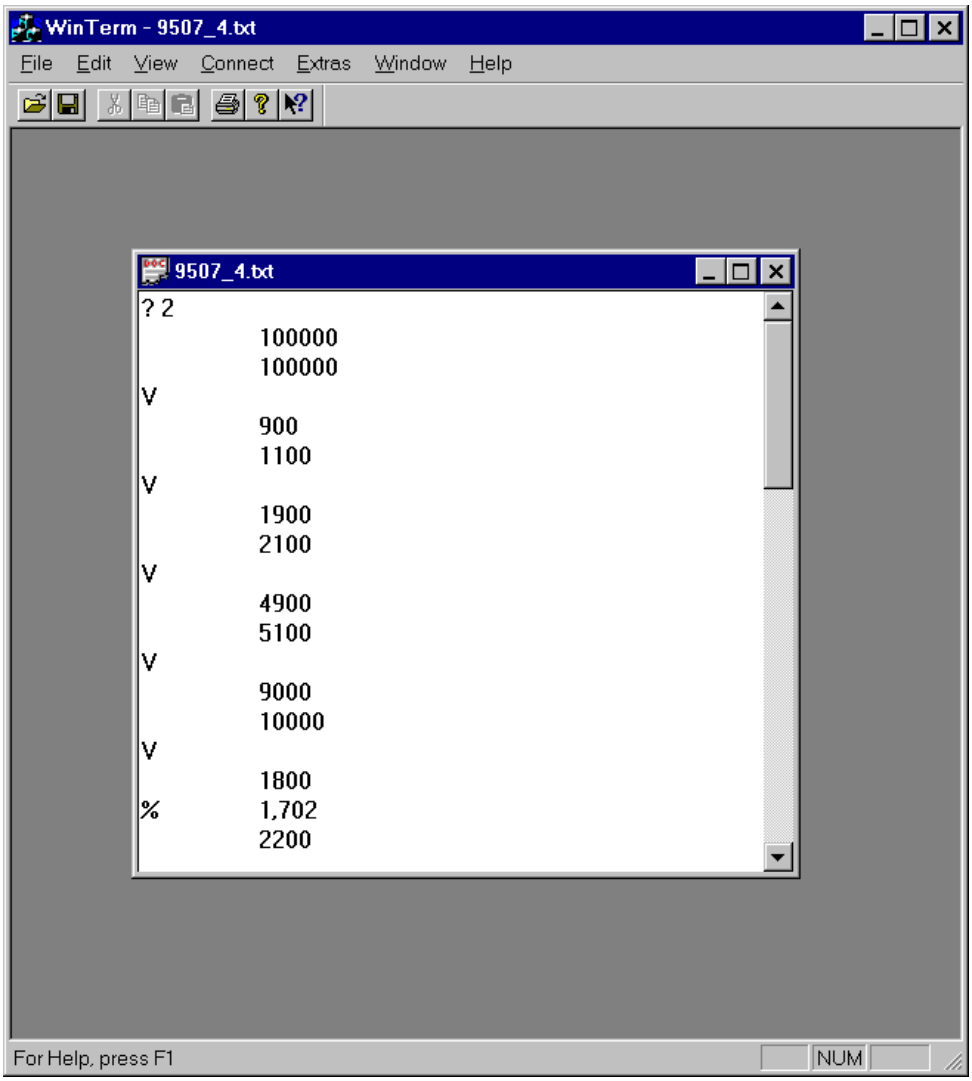
Then the program changes to the ***Instrument menu*** and shows the empty Instrument window



If you have selected OLE automation in the **Communication Setup** dialog box, EXCEL starts automatically and an empty EXCEL spreadsheet is displayed in a window.

6.4.1 Data Transfer

As soon as the data transfer starts, i.e. the data is transmitted from the external instrument, the data flow is displayed - depending on the setting in the **Communication Setup** dialog box, **Script language** tab - in the Instrument window and possibly in an EXCEL spreadsheet.



Note: Editing, saving and printing is possible only after completion of the data transmission and selection of **Disconnect Instrument** on the **Connect** menu!

Edit

The displayed data flow can be edited via the keyboard (overwrite, delete, enter) as well as via the following items on the **Edit** menu :

Copy The highlighted text is copied to the Windows Clipboard and is available to other programs as well.

Cut The highlighted text is cut out and copied to the Clipboard.

Paste The Clipboard contents are pasted at the cursor position.
Undo The last action is undone.

Save

The data can be saved under any name as TXT file. This format can be imported in most word-processing and spreadsheet programs, so that the data can be processed further.
Select **Save as** on the **File** menu and enter the directory and the filename of the transferred data in the dialog box.

Print

The transferred data can be printed by selecting **Print** on the **File** menu or by clicking on the Print button in the toolbar.

Print Preview

After selection of **Print Preview**, the file contents is displayed as it will be printed. The keys at the top of the window allow you to process the file contents using Windows standard functions.

Print Setup

Windows standard function for setting up the print parameter. For more information consult your Windows manual.

6.4.2 Instrument Control via Function Keys

The sequence of operations is the same as described beforer. The only difference is that the instrument is not operated via its operating panel but via the **WinTerm** function keys.

6.4.3 Data Communication Parameters Display

While the data transmission of the connected instruments is displayed, you can view and edit the communication parameters for the respective instrument in the **Communication Setup** dialog box which is opened by selecting **Options** in the **Extras** menu of the **Instrument menu** .

6.4.4 Downloading

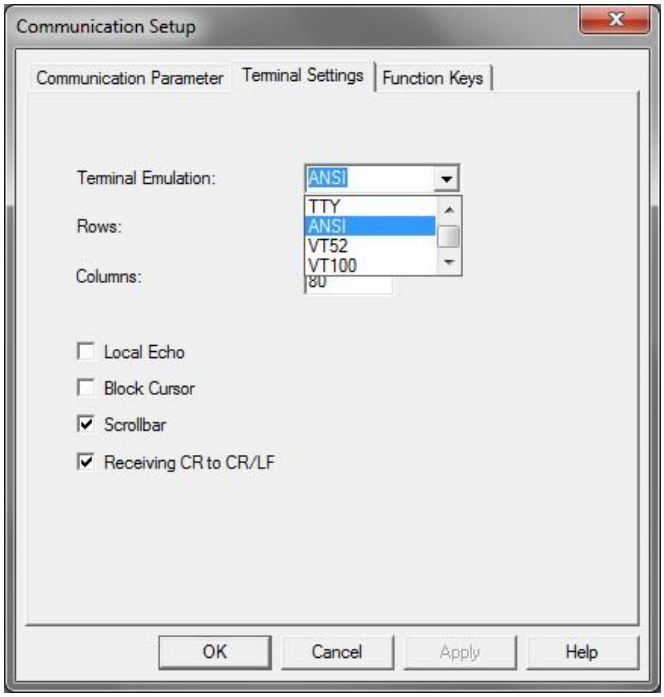
To download one or several files to an instrument, select **Send File** in the **Extras** menu of the **Instrument menu**.

This opens the **Send File** dialog box. Select the file you want to send. After confirmation of your selection, the files are downloaded to the stand-alone instrument via the serial interface .

6.5 Terminal Emulation

WinTerm can also work as a pure Terminal program and display the raw data sent by the instrument on the screen unmodified. First, select the appropriate Terminal mode for the instrument and then make the connection.

1. Select **Add Terminal** in the **Terminal** menu of the main menu. The **Communication Setup** dialog box with 3 tabs is displayed and you can select the Terminal mode for your system and define other instrument parameters.



2. In the **Terminal Emulation** drop-down list box, **ANSI**, **TTY**, **VT52** and **VT100** are offered for selection. Select the emulation you want and enter the following parameters for output of the transferred data to the screen:

[**Rows**]	Number of rows	depending on the raw data
[**Columns**]	Number of columns	output of the instrument

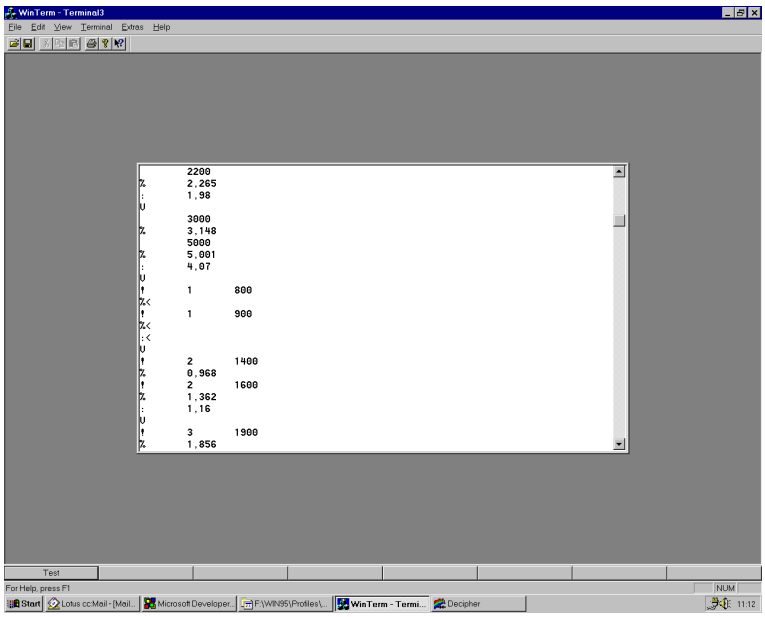
[**Local Echo**] Select this option when the transmitted characters are returned by the receiving instrument. This prevents that characters are displayed twice.

[**Block Cursor**] The cursor is displayed as a block when this option is selected, otherwise as a vertical line.

[**Scrollbar**] Shows a scroll bar in the Terminal window so you can scroll while the data flow is displayed.

[**Receiving CR to CR/LF**] check for LB 147 and LB 2045

3. Select the **Communication Parameter** tab and enter the transfer parameters for this instrument.
4. Select the **Function Keys** tab when the instrument can be controlled externally and define the function keys.
5. Confirm the entries with <**OK**>. The program returns to the main menu.
6. Select **Terminal Emulation** in the **Terminal** menu to start the Terminal transmission. After selection of the desired Terminal file in the Terminal select window, the program changes to the Terminal menu with the respective menu bar and a window showing the transmitted data.



Any function keys you have defined are displayed at the bottom of the screen. When you press a function key, the respective text (with control character) is sent to the selected instrument via the serial interface . The transmitted and received characters are then displayed in the Terminal window.

7. Select **Send File** in the **Extras** menu to transmit data in the Terminal mode to the connected instrument and select the file you want to send from the file select window.

Save data

The data displayed in the Terminal window can be saved under any filename. Select the item **Save As** in the **File** menu.

Editing the communication parameters

Communication parameters can be edited as follows:

a) In the ***Main menu***
Select **Modify Terminal** in the **Terminal** menu and select the desired Terminal file in the Terminal select window. The **Communication Setup** dialog box appears showing the respective parameters.

b) In the ***Terminal menu***
Select **Options** in the **Extras** menu . The **Communication Setup** dialog box appears showing the respective parameters.

In both cases, you can save the changes by clicking <**OK**>.

7. Trouble shooting

Symptom	***Possible cause***	***solution***
No data transfer	Wrong communication parameters	Match settings of the software with the instrument

8. Technical Data

Interface(s)	Serial RS232, programmed FTDI serial-to-USB
Operating system	Win 95, Win 2000, Win NT, Win XP, Win Vista, Win 7
PC requirements	Pentium, 500 MHz (or better), CD ROM drive
Instruments	LB 500, LB 9509, LB 9507, LB 96P, LB 9506, LB 9505, LB 9501, LB 953, LB 955 LB 147, LB 148, LB 2045

9. Appendix

a. Customer Reply Form

Send Customer Reply Form to:

Berthold Technologies GmbH & Co KG
Technical Support
Calmbacher Str. 22
75323 Bad Wildbad
Germany
Phone: +49 7081 177 114
Fax: +49 7081 177 301
Email: service@berthold.com

or **your local representative**.

A blank Customer Reply Form can be found overleaf.

Customer Reply Form

Date: Customer no.:

Name:

Company:

Department:

Address:

Address:

Phone: Fax:

Email:

Instrument:

ID no.:

Serial no.:

Embedded software version:

Instrument driver software version:

Accessory instruments:

PC Software: PC software version:

Windows version:

Computer type: CPU type:

Other installed software:

Time when problem occurred (Windows clock):

Error message(s):

Description of the problem:

b. Confirmation on Decontamination Form

Confirmation on Decontamination

If you return an instrument to BERTHOLD TECHNOLOGIES for servicing purposes which is not properly decontaminated, there will be a health risk for BERTHOLD TECHNOLOGIES employees. We therefore need your confirmation that the instrument was decontaminated and cleaned properly before shipping. If the form below is not filled in accordingly and completely, we are forced to reject the instrument. Please understand that this is intended to protect our employees from any hazards.
Please put one copy into the shipping box and a duplicate into an envelope attached to the outside. (please use capital letters !)

instrument / component:	serial no.:
[ ] I hereby confirm that the instrument or component specified above has not been used with any hazardous or contagious samples or reagents	
instrument or component has come into contact with:	
[ ] radioactive substances Isotope(s):	means of decontamination applied:
[ ] chemical reagents specify: R and S rules:	means of decontamination applied:
[ ] contagious biological material specify:	means of decontamination applied:
indicate security level of the laboratory the instrument has been used in [ ] S1 [ ] S2 [ ] S3 [ ] S4	
[ ] I hereby confirm that the instrument or component specified above was not contaminated with any of the above mentioned substances / reagents / agents [ ] I hereby confirm that the instrument or component specified above was decontaminated / cleansed using the appropriate method	
date:	signature:
name: title: email: phone:	address: fax:

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c. Index